

Koch, Kristine

From: MCCLINCY Matt <MCCLINCY.Matt@deq.state.or.us>
Sent: Friday, August 01, 2014 3:44 PM
To: PARRETT Kevin
Cc: JOHNSON Keith; GAINER Tom
Subject: FW: LWG Comments on Revised FS Section 2
Attachments: 121013 notes clean.pdf

Kevin,

Latest background volley. Note emphasis on source control.

Matt

From: Koch, Kristine [mailto:Koch.Kristine@epa.gov]
Sent: Friday, August 01, 2014 3:02 PM
To: LIVERMAN Alex; Allen, Elizabeth; Audie Huber (audiehuber@ctuir.com); Bob Dexter; Brian Cunninghame (cunninghame@gorge.net); callie@ridolfi.com; Coffey, Scott; Conley, Alanna; Erin Madden (erin.madden@gmail.com); Fuentes, Rene; Gabriel Moses (b) (6); Gail Fricano (gfricano@indecon.com); Genevieve Angle (Genevieve.Angle@noaa.gov); Hagerman, Paul; Holly Partridge (Holly.Partridge@grandronde.org); JD Williams (jd@williamsjohnsonlaw.com); PETERSON Jenn L; Jeremy_Buck@fws.gov; Julie Weis (jweis@hk-law.com); MCCLINCY Matt; Michael.karnosh@grandronde.org; POULSEN Mike; Muza, Richard; rdelvecchio@indecon.com DelVecchio; Robert.Neely@noaa.gov; rose@yakamafish-nsn.gov; Ryan Sudbury (Ryan.Sudbury@grandronde.org); Sheldrake, Sean; Shephard, Burt; Todd King (KingTW@cdmsmith.com); tomd@ctsi.nsn.us; GAINER Tom
Subject: FW: LWG Comments on Revised FS Section 2

All – here is our latest (and hopefully last) transmittal on background.

Kristine Koch
Remedial Project Manager
USEPA, Office of Environmental Cleanup

U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900, M/S ECL-115
Seattle, Washington 98101-3140

(206)553-6705
(206)553-0124 (fax)
1-800-424-4372 extension 6705 (M-F, 8-4 Pacific Time, only)

From: Koch, Kristine
Sent: Friday, August 01, 2014 3:01 PM
To: 'James McKenna'
Cc: Jennifer Woronets; Sheldrake, Sean; Wyatt, Robert; Cora, Lori; Cohen, Lori; Yamamoto, Deb
Subject: RE: LWG Comments on Revised FS Section 2

Bob and Jim,

EPA is disappointed that the LWG chose to respond to my email of July 30, 2014 by further attempting to confuse the issue of background sediment concentrations for Portland Harbor. We are most concerned that the LWG continues to engage in presenting alternate interpretations of how the revised draft final RI Section 7 defined the calculated background sediment concentrations. In its July 28, 2014 email, the LWG stated that “We were simply pointing out the fact that Section 7 also includes background bedded sediment statistics based on the complete data set,” and further

noted in your email on July 30, 2014 that “The inclusion of more than one set of background calculations in section 7 was confirmed by the EPA and LWG senior managers in the final version of the notes from their December 10, 2013 meeting: “After considerable discussion, the EPA and LWG project managers agreed that the RI Section 7 would include four sets of background calculations, including two with the full data set and two with outliers removed.”

Section 7.3 of the revised RI contains the following text:

A key element of developing appropriate background is to ensure that the data set is as free as possible of data points that are not representative of the relevant dominant background conditions.

EPA guidance (EPA 2013) notes that when present, the presence of a few high outliers can mask the normality of a data set, and that a lognormal distribution tends to accommodate outliers. Additionally, the presence of outliers tends to distort decision statistics of interest such as upper prediction limits. While the actual origin of high-biasing outliers is not always clear, EPA recommends that to provide a proper balance between false positives and false negatives, methods to calculate upper limits to describe background should only be used when the background data set represents a single environmental population without outliers.

Section 7.2.2 clearly states that “the upriver reach of the Lower Willamette River extending from RM 15.3 to 28.4 was selected as the reference area for determining background sediment concentrations.”

The final version of the December 10, 2013 senior managers meeting notes clearly describes the LWG’s interpretation of the “Original EPA Approach” as presenting “four sets of background calculations, including two with the full data set and two with outliers removed.” However, it also clearly presents the Associate Director’s final decision that “EPA is correct to depart from the Original EPA Approach because it was based on an incorrect interpretation of Guidance.” The LWG chose not to dispute that finding. Thus, EPA contends the record is abundantly clear that the upriver reach was selected as representative of background sediment concentrations, and that the background sediment data set is represented only by the data collected from this reach with the obvious outlier values removed. Thus, there is only one set of background calculations presented in RI Section 7. EPA views the LWG’s continued parsing of this clear record disingenuous and deeply troubling. EPA acknowledges that discussions are ongoing as to how background will be used in the FS to evaluate remedy effectiveness for those COCs for which anthropogenic background concentrations are greater than risk-based PRGs. However, we reiterate that with **proper source control**, background concentrations represent achievable targets resulting from long-term natural recovery, and are clearly defined solely by the statistics calculated from the upriver data set with outliers removed.

Regards,

Kristine Koch
Remedial Project Manager
USEPA, Office of Environmental Cleanup

U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900, M/S ECL-115
Seattle, Washington 98101-3140

(206)553-6705
(206)553-0124 (fax)
1-800-424-4372 extension 6705 (M-F, 8-4 Pacific Time, only)

From: James McKenna [<mailto:jim.mckenna@verdantllc.com>]

Sent: Wednesday, July 30, 2014 5:58 PM

To: Koch, Kristine

Cc: Jennifer Woronets; Sheldrake, Sean; Wyatt, Robert; Cora, Lori; Cohen, Lori; Yamamoto, Deb

Subject: RE: LWG Comments on Revised FS Section 2

Kristine,

Thank you for your response. As you mentioned in your email the revised RI Section 7 calculates background sediment concentrations using the full data set and a data set with outliers removed. On December 12, 2013 we concluded our negotiations on the revised RI Section 7 and the LWG did not dispute EPA's modifications to this section based, in part, on the fact that various background calculations were preserved in the revised RI.

The inclusion of more than one set of background calculations in section 7 was confirmed by the EPA and LWG senior managers in the final version of the notes from their December 10, 2013 meeting: "After considerable discussion, the EPA and LWG project managers agreed that the RI Section 7 would include four sets of background calculations, including two with the full data set and two with outliers removed." This issue was further clarified by Margaret Kirkpatrick in an email to Lori Cohen dated March 26, 2014, which stated the parties agreed "(1) Section 7 of the RI includes background information both with and without 'the outliers;' and (2) the LWG and EPA have not agreed upon how that information will be used in the FS. Accordingly, issues around use of the background information will be addressed in future technical discussions about the FS and any future disagreements could be elevated via the dispute process described in both the AOC and the forthcoming Revision Process for the Draft FS."

The LWG also communicated to you it's understanding that the issue of how background calculations would be used would be discussed in the context of the FS in an email from the LWG to you on December 12, 2013:

"The impact of background sediment concentrations developed in Section 7 on the Preliminary Remedial Goals (PRGs) for the Feasibility Study may be the subject of future discussions (e.g., the Conceptual Site Model or revised Feasibility Study), but EPA agrees that it is not directing changes to the FS or the PRGs through these revisions to Section 7."

You acknowledged our concerns in a response email later that day:

"Revisions of Sections 5 and 10 of the RI will focus on comparing contaminant concentrations in the various reaches of the river. *This section [Section 7] is merely discussing the calculation of background concentrations, not how background will be applied. We agree that those conversations will take place in the future as the application of background is conducted (e.g., identification of areas of contamination, development of PRGs, evaluation of remedy effectiveness, etc.). PRGs are developed in the FS, so EPA is not directing the LWG to do anything with the FS regarding background at this point.*" [emphasis from original email text].

The LWG and EPA are now engaged in technical discussions regarding the revised RI Section 5 and we received EPA's revised Section 10 yesterday. We are also involved in detailed technical discussions on the revised FS. However, we have yet to get into the details of where and how background will be incorporated, considered, and weighed in the revised FS. The LWG has provided you technical comments on the application of background sediment concentrations as we understood those concentrations were to be used in Section 2 of the FS. We look forward to continuing this discussion while reviewing the draft revised RI Section 10 and revised sections of the FS and can assess how background is incorporated into the various analyses.

Thanks,

Jim McKenna
Verdant Solutions, LLC
5111 SE 41st Avenue
Portland, Oregon 97202
Office: (503) 477-5593
Cell: (503) 309-1621
jim.mckenna@verdantllc.com

From: Koch, Kristine [<mailto:Koch.Kristine@epa.gov>]
Sent: Monday, July 28, 2014 1:36 PM
To: James McKenna; Wyatt, Robert
Cc: Jennifer Woronets; Sheldrake, Sean; Cora, Lori; Cohen, Lori; Yamamoto, Deb
Subject: RE: LWG Comments on Revised FS Section 2

Bob and Jim - EPA agreed to a presentation of statistics on both the full background data set and with outliers removed in the revisions to the RI Section 7 because our guidance recommends observing whether removing outliers has a discernable effect on the calculated statistics. In this case, the outliers exerted undue influence on the statistics (one of the definitions of outliers), and EPA considers only the data set with outliers removed as descriptive of upstream bedded sediment concentrations. Those concentrations will be used in the FS as representative of concentrations achievable from upstream loading through long-term MNR with sources adequately controlled.

We are puzzled and concerned that the LWG continues to believe that the presentation of the "full" data set in Section 7 means that the outliers are in any way considered part of "background" for the Portland Harbor site. Consistent with the agreed-upon process for revisions to the draft final RI, the LWG also agreed that background concentrations for Portland Harbor are represented by the upstream data set with outliers removed when it agreed to the revised Section 7, and EPA considers this issue to be resolved.

Regards,

Kristine Koch
Remedial Project Manager
USEPA, Office of Environmental Cleanup

U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900, M/S ECL-115
Seattle, Washington 98101-3140

(206)553-6705
(206)553-0124 (fax)
1-800-424-4372 extension 6705 (M-F, 8-4 Pacific Time, only)

From: James McKenna [<mailto:jim.mckenna@verdantllc.com>]
Sent: Monday, July 28, 2014 11:21 AM
To: Koch, Kristine; Wyatt, Robert
Cc: Jennifer Woronets; Sheldrake, Sean; Cora, Lori; Cohen, Lori; Yamamoto, Deb
Subject: RE: LWG Comments on Revised FS Section 2

Kristine,

The LWG recognizes EPA identified outliers in the upstream bedded sediment data set and directed the LWG to include statistical calculations of background in Section 7 of the revised RI with those outliers removed. We were simply pointing out the fact that Section 7 also includes background bedded sediment statistics based on the complete data set (i.e., with no outliers), and with consideration of organic carbon correction (for both the full data set and with outliers removed). The various approaches for assessing sediment background in the RI is consistent with EPA guidance. Obviously, decisions will need to be made regarding where and how this information is utilized in the revised FS.

There is a range of uncertainty with many aspects of all complex Superfund site investigations, and the evaluations of background and MNR at this site are no exception. However, we feel the uncertainties are manageable and within the

range of acceptability for an FS-level of analysis. We also agree with you that the equilibrium concept is worth pursuing and look forward to discussing that topic with EPA during our upcoming FS technical discussions.

Thanks,

Jim McKenna
Verdant Solutions, LLC
5111 SE 41st Avenue
Portland, Oregon 97202
Office: (503) 477-5593
Cell: (503) 309-1621
jim.mckenna@verdantllc.com

From: Koch, Kristine [<mailto:Koch.Kristine@epa.gov>]
Sent: Monday, July 28, 2014 10:03 AM
To: Wyatt, Robert; James McKenna
Cc: Jennifer Woronets; Sheldrake, Sean; Cora, Lori; Cohen, Lori; Yamamoto, Deb
Subject: RE: LWG Comments on Revised FS Section 2

Bob and Jim – Just to clarify, the RI Section 7 does not have a “suite of background statistics”. EPA viewed the data set and determined that there were “outliers” from the background data and removed those outliers in determining the background data. We do understand the limitations of the use of this data set, but absent any other data, it is what we have to use in the FS. With regard to use of the sediment trap and surface water data collected upriver, it appears to be co-located with the “outliers” EPA identified in the bedded sediment data, so the utility of this data is also limited. We agree that there will be ongoing discussions regarding how to determine equilibrium at the site, but the indications we have from the analysis conducted thus far are that there is too much uncertainty in the long-term projections of MNR in the Study Area. Again, we will be having these discussions with you during Section 4 issue resolution since that is where this evaluation will commence.

Regards,

Kristine Koch
Remedial Project Manager
USEPA, Office of Environmental Cleanup

U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900, M/S ECL-115
Seattle, Washington 98101-3140

(206)553-6705
(206)553-0124 (fax)
1-800-424-4372 extension 6705 (M-F, 8-4 Pacific Time, only)

From: Wyatt, Robert [<mailto:rjw@nwnatural.com>]
Sent: Wednesday, July 23, 2014 3:24 PM
To: Koch, Kristine; Jim McKenna (jim.mckenna@verdantllc.com)
Cc: Jennifer Woronets; Sheldrake, Sean; Cora, Lori; Cohen, Lori; Yamamoto, Deb
Subject: RE: LWG Comments on Revised FS Section 2

Kristine,

Thank you for your response to some of the information the LWG provided on June 19 regarding background sediment calculations. Upon review of your response it appears there is a misunderstanding of some of the LWG comments, and we are providing this initial response to clarify our intent. We are happy to meet with you to discuss these issues in more detail, and if necessary follow-up with a more detailed written response.

Upon reviewing our comments, including our stated rationale for disagreement on Attachment 1, Table 2, we can see that you interpreted our comments as indicating the upstream background data set is inadequate. That is not the case. A way to clarify this point is to replace the word "data" with "statistics" in the column title "Summary of Disagreement Rationale" on Attachment 1, Table 2. Beyond that specific clarification, our primary comment is that there are reasonable limitations for the use of the upstream bedded sediment data in the Feasibility Study (e.g., they are not a good measure of the lowest achievable concentrations within the Site, against which alternative performance will be compared). This is mainly due to the different physical conditions upstream of the Study Area as compared to those within the Study Area (e.g., higher currents, smaller depositional areas, generally coarser grain size, and lower organic carbon content).

Your response also states the LWG should have understood the RI statistics would be used in the FS. The LWG fully understands that background statistics from RI will be used in the FS, and we agreed to a suite of background statistics in the revised RI Section 7. Our comments were intended to highlight that additional upstream bedded sediment statistics should also be used in the revised FS, and that all of this information, along with upstream suspended sediment and sediment trap data, support use of an equilibrium concept as described in our Attachment 2. It is our view that a technically sound equilibrium approach will be of great benefit in setting achievable sediment remedy goals for the Site.

Thank you,

Bob.

From: Koch, Kristine [Koch.Kristine@epa.gov]
Sent: Monday, July 21, 2014 2:53 PM
To: Wyatt, Robert; Jim McKenna (jim.mckenna@verdantllc.com)
Cc: Jennifer Woronets; Sheldrake, Sean; Cora, Lori; Cohen, Lori; Yamamoto, Deb
Subject: LWG Comments on Revised FS Section 2

Bob and Jim,

This email is to respond to some of the information you provided to EPA on June 19, 2014, regarding LWG comments on the revised FS Section 2. We have discussed this issue so you should not be surprised by this response.

The following statements were made by the LWG in the June 19 information:

Attachment 1 Table 2

PCBs – "The data used to determine background are not representative of reasonable background conditions in Portland Harbor (see Attachment 2)."

Attachment 3

"Calculate sediment background values based on statistical assessments of upstream bedded sediment data that are based on technically sound methods consistent with standard accepted statistical practices and EPA's guidance."

"9 - SEDIMENT BACKGROUND STATISTICS

EPA is using RI Section 7 sediment background values based on inappropriate statistical analyses of upstream bedded sediment data for comparison to risk-based sediment PRGs in the revised FS Section 2 and potentially other purposes for later sections of the revised FS. During the draft final RI Section 7 discussions on sediment background, the LWG provided numerous technical objections to EPA's directed changes to the calculation of upstream bedded sediment background values, including issues related to organic carbon normalization and the selection of outliers (among other issues). The LWG accepted EPA's RI directions on background solely for the purposes of completing RI Section 7. For the purposes of the revised FS, the LWG disagrees for similar reasons that the RI background statistics were calculated appropriately and therefore represent technically accurate or reasonable background values for use in the revised FS.

As noted above, EPA guidance (EPA 2005) is clear that PRGs based on background (or risk) should be achievable by the sediment remedy itself. EPA's proposed background values based on inappropriately derived upstream bedded sediment statistics are unlikely to represent achievable levels for the Site. In the near future, the LWG will present to EPA under separate cover additional information on technically appropriate methods for calculating background statistics from upstream bedded sediment data that follows standard accepted statistical practices and are consistent with EPA's guidance. In addition, per Attachment 2, the LWG urges EPA to calculate equilibrium-based values for use throughout the revised FS as more representative of likely achievable background levels for the Site."

It seems from these statements that the LWG now believes (1) the LWG failed to collect adequate data for its stated purpose of establishing background concentrations for Portland Harbor, (2) the methodology to which the LWG agreed to in Section 7 of the RI to develop background in the RI was not based on EPA guidance and accepted practices, (3) and that the background concentrations should be recalculated in the FS.

With reference to the three points above,

- It is unfortunate that the LWG believes the data they collected are inadequate to develop background concentrations for the RI/FS. EPA was of the understanding that the LWG considered the data collected to be sufficient for the purposes LWG stated in its UPRIVER AND MULTNOMAH CHANNEL SEDIMENT EVALUATION AND FIELD SAMPLING PLAN TECHNICAL APPROACH (May 21, 2007), as well as several other documents submitted to EPA by the LWG. In consultation with EPA, DEQ, and the tribes, the upriver reach of the Lower Willamette River extending from RM 15.3 to 28.4 was selected as the reference area for determining background sediment concentrations. LWG has not presented any new information learned since the data was taken that would indicate the data is insufficient.
- EPA believes the data is sufficient for purposes of calculating background, and the methodology used to determine background concentrations in the RI used accepted practices and followed EPA guidance.
- The revised FS is using the background values established in the RI, section 7. As you know, these reports are complementary to each other and the FS is building off of the data and data analysis provided RI. The purpose for determining bedded upriver sediment concentrations was that those values are considered to be representative of the concentrations of mobile sediment that are depositing in the upriver reach to be indicative of sediment concentrations that would deposit within the Study Area, uninfluenced by known or suspected sources within the Downtown reach and thus representative of concentrations in sediment resulting from disposition following successful implementation of source control measures. The LWG and EPA agreed to select specific areas where deposition was known to be occurring in this reach of the river for that purpose. The LWG's argument that EPA's RI directions on background were solely for the purposes of completing the RI Section 7 is puzzling, as the stated purpose of the RI Section 7 was to establish upriver bedded sediment background concentrations.

Regards,

Kristine Koch
Remedial Project Manager
USEPA, Office of Environmental Cleanup

U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, Suite 900, M/S ECL-115
Seattle, Washington 98101-3140

(206)553-6705
(206)553-0124 (fax)
1-800-424-4372 extension 6705 (M-F, 8-4 Pacific Time, only)